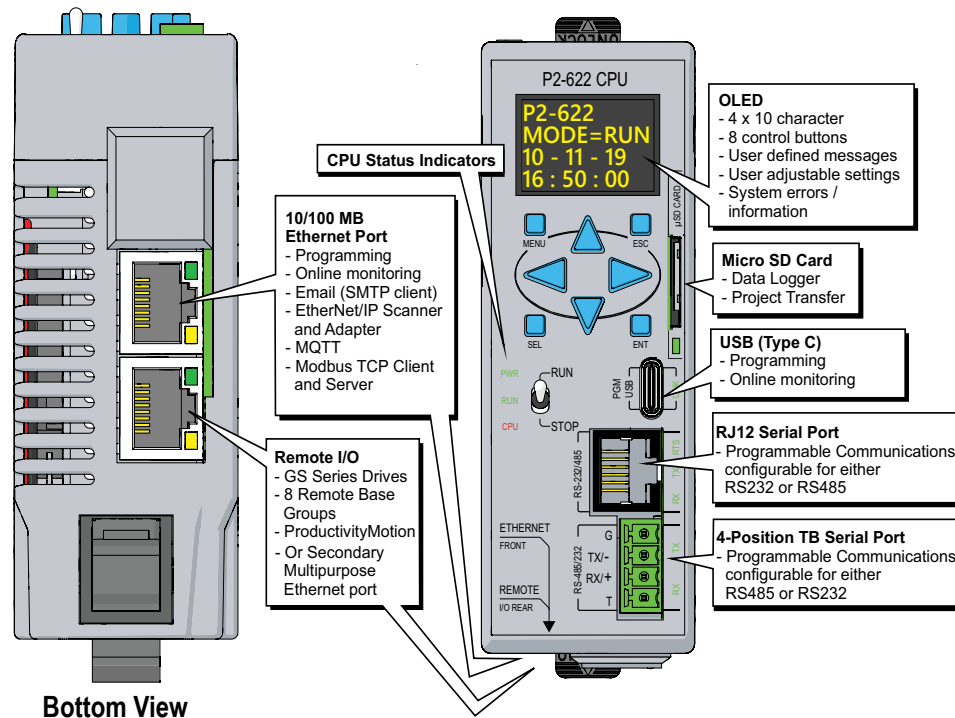


# P2-622 CPU Module

**P2-622**    **\$299.00**

The P2-622 is a high-performance CPU which has communications ports that support Ethernet and serial devices. The P2-622 also includes a 4-line x 10-character OLED local display and a USB programming port.

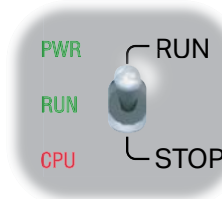


## CPU Run/Stop Switch

|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| <b>RUN position</b>  | Executes user program, run-time edits possible              |
| <b>STOP position</b> | Does not execute user program, normal program load position |

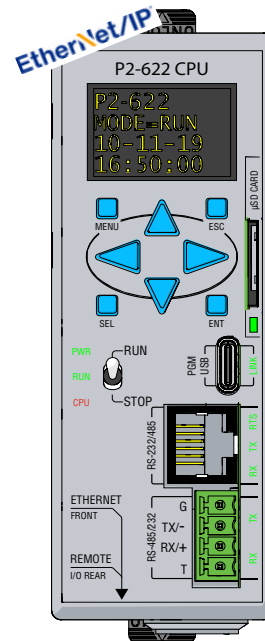
## CPU Status Indicators

|            |                                                                                  |
|------------|----------------------------------------------------------------------------------|
| <b>PWR</b> | Green LED is illuminated when power is ON                                        |
| <b>RUN</b> | Green LED is illuminated when CPU is in RUN mode                                 |
| <b>CPU</b> | Red LED is illuminated during power ON reset, power down, or watch-dog time-out. |



# P2-622 CPU Module

| CPU Specifications                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User Memory                           | 50MB (Includes program, data and documentation)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Memory Type                           | Flash and Battery Backed RAM                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Retentive Memory                      | 512KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Scan Time                             | 500µs (3K Boolean, 240 I/O)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Display                               | OLED, 4x10 characters, 8 control buttons                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Communications;<br>5 Integrated Ports | USB IN: Programming, Monitoring, Debug, Firmware<br>ETHERNET: (10/100Mbps Ethernet) Programming, Monitoring, Debug, Firmware, MQTT, Email SMTP Client, Modbus TCP Client (32 Servers) and Server (16 Clients), EtherNet/IP Scanner (32 Adapters) and Adapter (4 scanners) with 8 connections per device.<br>REMOTE I/O: 16 GS-EDRV100 (GS Drives), 8 Remote Base Groups<br>RJ12 RS232/485: Programmable<br>4 Position TB RS485/232: Programmable (removable terminal block included) |
| Data Logging/Project Transfer         | microSD card slot                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hardware Limits of System             | <b>9 Base Groups:</b> 1 Local (CPU) + 8 Remote (P2-RS and/or P1-RX) + 4 PS-AMC<br>4,320 Hardware I/O points (All 32 point modules)                                                                                                                                                                                                                                                                                                                                                   |
| Instruction Types                     | <div>           Application Functions<br/>           Array Functions<br/>           Counters/Timers<br/>           Communications<br/>           Data Handling<br/>           Drum Sequencers<br/>           Math Functions         </div> <div>           PID<br/>           Program Control<br/>           String Functions<br/>           System Functions<br/>           Contacts<br/>           Coils<br/>           Motion Control         </div>                              |
| Real Time Clock Accuracy              | ±2s per day typical at 25°C<br>±10s per day maximum at 60°C                                                                                                                                                                                                                                                                                                                                                                                                                          |



**IMPORTANT!**



## Hot-Swapping Information

**NOTE:** This device cannot be Hot Swapped.

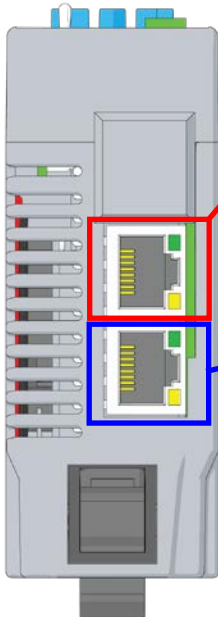
| General Specifications |                                                                  |
|------------------------|------------------------------------------------------------------|
| Operating Temperature  | 0° to 60°C (32° to 140°F)                                        |
| Storage Temperature    | -20° to 70°C (-4° to 158°F)                                      |
| Humidity               | 5 to 95% (non-condensing)                                        |
| Environmental Air      | No corrosive gases permitted                                     |
| Vibration              | IEC60068-2-6 (Test Fc)                                           |
| Shock                  | IEC60068-2-27 (Test Ea)                                          |
| Heat Dissipation       | 3.81 W                                                           |
| Enclosure Type         | Open equipment                                                   |
| Module Location        | Controller slot in the local base in a Productivity®2000 system. |
| Weight                 | 158g (5.6 oz)                                                    |
| Agency Approvals**     | UL508 file E139594, Canada & USA CE (EN61131-2)*                 |

\*Meets EMC and Safety requirements. See the Declaration of Conformity for details.

\*\*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific component part number web page.

# P2-622 CPU Module

## Port Specifications



**P2-622 Bottom View**

## Ethernet Port (On bottom of CPU)

RJ-45 style connector used for:

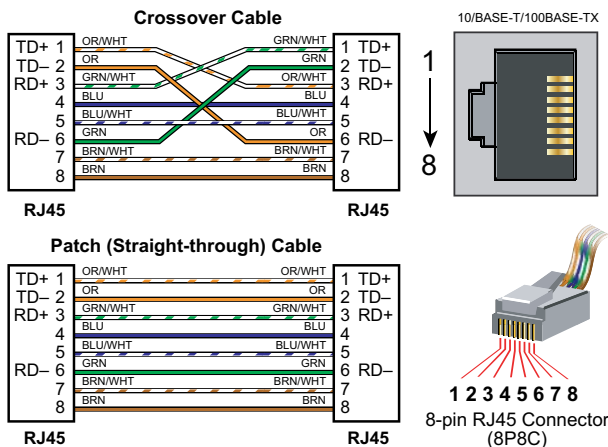
- Connection to a PC running the ProductivitySuite programming software
- Modbus TCP Client (32 Servers) connections (Modbus requests sent from the CPU)
- Modbus TCP Server (16 Clients) connections (Modbus requests received by the CPU)
- EtherNet/IP Scanner (32 Adaptors)
- EtherNet/IP Adapter (4 scanners) with 8 connections per device.
- Outgoing E-mail
- MQTT Client (4 brokers)

## Remote I/O Port (RJ-45 style connector on bottom of CPU)

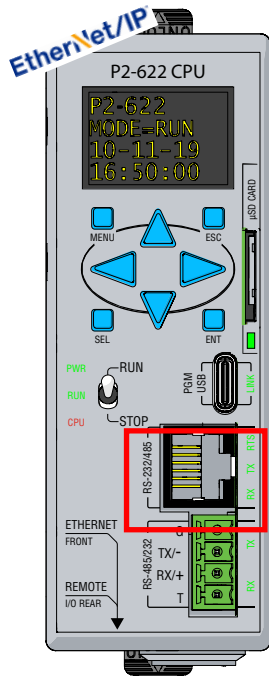
- Connection to a Remote I/O network of devices using the Productivity Remote Protocol, e.g. P2-RS, P1-RX, GS Drives, etc.
- Can be user defined and used as a secondary multipurpose ethernet port with the exception that this port does not have Default Gateway or DNS capability.

## Ethernet Specifications

| Port Name       | ETHERNET                                                                                                                                                                                                                                                                                                                                                                | REMOTE I/O                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description     | Standard transformer isolated Ethernet port with built-in surge protection for: <ul style="list-style-type: none"> <li>• programming</li> <li>• online monitoring</li> <li>• firmware</li> <li>• MQTT</li> <li>• Email (SMTP client),</li> <li>• Modbus/TCP client/server connections (fixed IP or DHCP)</li> <li>• Ethernet/IP Scanner/Adapter connections.</li> </ul> | Standard transformer-isolated Ethernet port with built-in surge protection for connection of: <ul style="list-style-type: none"> <li>• ProtosX remote I/O,</li> <li>• P2-RS and P1-RX remote slaves,</li> <li>• GS Drives with optional communication modules,</li> <li>• and/or PS-AMC modules</li> <li>• Can be configured as a Secondary multipurpose Ethernet port</li> </ul> |
| Transfer Rate   | RJ45 Yellow LED<br>Off = 10Mbps / On = 100 Mbps                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                   |
| Port Status LED | RJ45 Green LED<br>Solid when network LINK is established.<br>Flashes when port is active (ACT)).                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                   |



# P2-622 CPU Module



## RS-232/485 Port

The P2-622 CPU includes an RJ-12 style connector and a 4-position terminal block connector that may each be programmed for RS232 or RS485 connections. These ports may be used for:

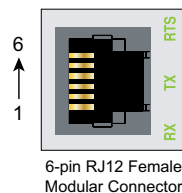
- Modbus RTU Master connections
- Modbus RTU Slave connections
- ASCII full or half duplex communications
- Custom Protocol Incoming and Outgoing communications

## RS-232 Specifications

|                                 |                                      |
|---------------------------------|--------------------------------------|
| TXD                             | RS-232 Transmit output               |
| RXD                             | RS-232 Receive input                 |
| RTS                             | Handshaking output for modem control |
| GND                             | Logic ground                         |
| Maximum Output Load (TXD/RTS)   | 3kΩ, 1000 pf                         |
| Minimum Output Voltage Swing    | ±5V                                  |
| Output Short Circuit Protection | ±15mA                                |

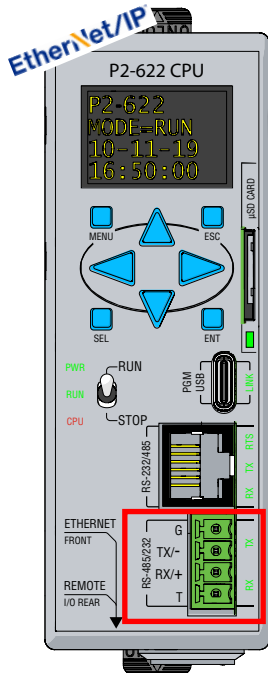
## RJ12 Connector

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description     | <p>Programmable RS232/485 Port</p> <ul style="list-style-type: none"> <li>- Non-isolated RS-232 DTE port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD and built in surge protection</li> <li>- Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active</li> </ul> |
| Data Rates      | Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200                                                                                                                                                                                                                                                                                                                                                                      |
| +5V Cable Power | 210mA maximum at 5V, ±5%. Reverse polarity and overload protected.                                                                                                                                                                                                                                                                                                                                                                              |
| Port Status LED | Green LED illuminated when active for TXD, RXD and RTS                                                                                                                                                                                                                                                                                                                                                                                          |
| Cable Options   | <p>EA-MG-PGM-CBL<br/>D2-DSCBL<br/>USB-RS232-1 with D2-DSCBL<br/>FA-CABKIT<br/>FA-ISOCAN for converting RS-232 to isolated RS-485</p>                                                                                                                                                                                                                                                                                                            |



| Pin # | RS232      | RS485         |
|-------|------------|---------------|
| 6     | GND        | GND           |
| 5     | RTS        |               |
| 4     | TXD        | TXRX-         |
| 3     | RXD        | TXRX+         |
| 2     | +5V, 210mA | Do no connect |
| 1     | GND        | GND           |

# P2-622 CPU Module



Removable connector included.  
Spare connectors available (part  
no. P3-RS485CON).

## RS-485/232 Port

A 4-pin removable terminal block used for:

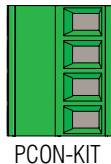
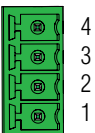
- Modbus RTU Master connections
- Modbus RTU Slave connections
- ASCII Incoming and Outgoing communications
- Custom Protocol Incoming and Outgoing communications

### RS-485 Specifications

|                 |                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description     | Programmable RS232/485 Port<br>- Non-isolated RS-232 DTE port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD and built in surge protection<br>- Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active |
| Data Rates      | Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200                                                                                                                                                                                                                                                                                                          |
| +5V Cable Power | 210mA maximum at 5V, $\pm 5\%$ . Reverse polarity and overload protected                                                                                                                                                                                                                                                                                                            |
| Port Status LED | Green LEDs illuminated when active for TXD, RXD and RTS                                                                                                                                                                                                                                                                                                                             |
| Cable Options   | EA-MG-PGM-CBL<br>D2-DSCBL<br><a href="#">USB-RS232-1</a> with D2-DSCBL<br>FA-CABKIT<br>FA-ISOCAN for converting RS-232 to isolated RS-485                                                                                                                                                                                                                                           |

## 4 Position Terminal Block

| 4 Position Terminal Block |                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description               | Programmable RS232/485 Port<br>- Non-isolated RS-232 DTE port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD and built in surge protection<br>- Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active |
| Data Rates                | Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200                                                                                                                                                                                                                                                                                                          |
| Port Status LED           | Green LED illuminated when active for TXD and RXD                                                                                                                                                                                                                                                                                                                                   |
| Cable Options             | Go to AutomationDirect.com for RS-232 and RS-485 cables                                                                                                                                                                                                                                                                                                                             |

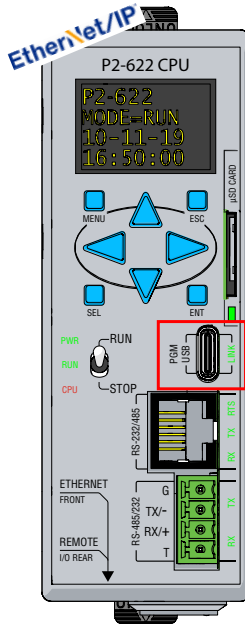


| Pin # | RS232          | RS485     |
|-------|----------------|-----------|
| 4     | GND            | GND       |
| 3     | TXD            | TXRX-     |
| 2     | RXD            | TXRX+     |
| 1     | Do not connect | TERMINATE |

# P2-622 CPU Module

## Port Specifications

### P2-622



### USB C Port

Used exclusively for connecting to a PC running the Productivity Suite programming software.

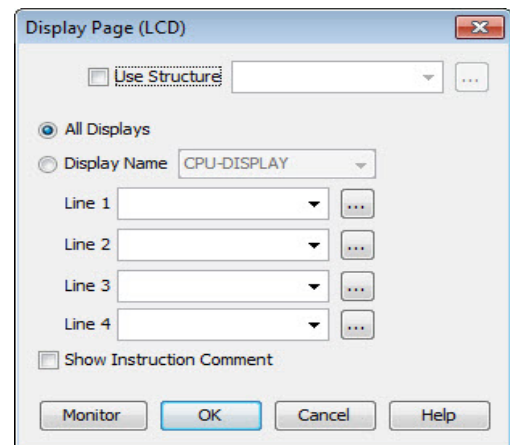
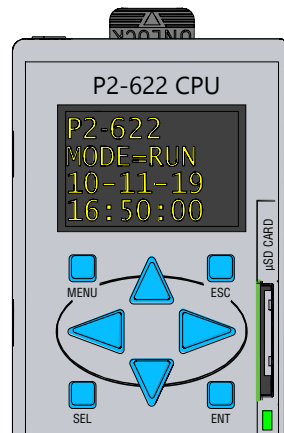
#### USB C Specifications

|                        |                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Port Name</b>       | PGM USB                                                                                                                                             |
| <b>Description</b>     | Standard USB C Slave input for programming and online monitoring, with built-in surge protection. Not compatible with older full speed USB devices. |
| <b>Transfer Rate</b>   | 480 Mbps                                                                                                                                            |
| <b>Port Status LED</b> | Green LED is illuminated when LINK is established to programming software.                                                                          |
| <b>Cables</b>          | USB Type A to USB Type C: 6ft cable part # USB-CBL-AC6                                                                                              |

## OLED Message Display

The P2-622 CPU incorporates a 4-line by 10-character OLED (Organic Light-Emitting Diode) display for system alarms, information and for displaying user-defined messages. Control buttons located beneath the OLED display allow the user to navigate through menu items. These buttons also permit local configuration of time and date settings.

User defined display messages may be configured using the Productivity Suite Programming Software. A "Display Page" dialog box allows the user to program text into user-defined tags that will be displayed based on the programmed ladder execution.

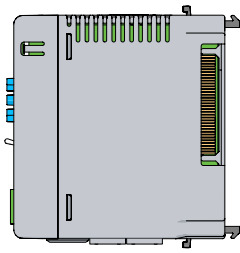


#### OLED Control Buttons

|                    |                                                    |
|--------------------|----------------------------------------------------|
| Menu Button        | Access the OLED menu                               |
| ESC Button         | Returns to the previous screen                     |
| SEL Button         | Selects the desired menu option                    |
| ENT Button         | Starts the selected process                        |
| Directional Arrows | Moves the cursor around the 4 Row x 10 Column OLED |

# P2-622 CPU Module

## CPU Installation

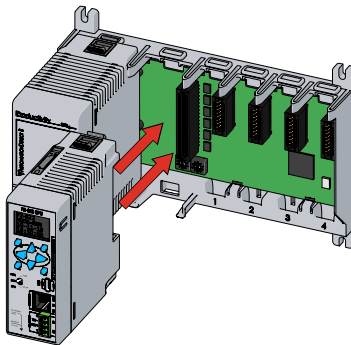


**Step One:**  
Unlock both locking tabs

**WARNING:** Do not apply field power until the following steps are completed. .

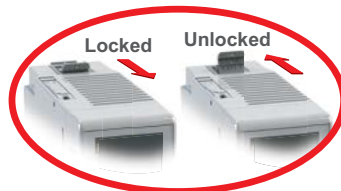
### Step Two:

Seat CPU on support platform and push towards base until circuit board is fully engaged into connector



### Step Three:

Snap retaining tab into the locked position.



**WARNING:** Explosion hazard – Do not connect or disconnect or operate switches while circuit is live unless the area is known to be non-hazardous. Do not hot-swap modules unless the area is known to be non-hazardous.